

Subject Index to Volume 44

Acid stress corrosion (of GRP), 137 Adhesion, 185, 351 Adhesion (fibre/matrix), 333 Amine grafting (on carbon fibres), 333 Anodic oxidation (pitch fibres), 351 Aramid fibre composites, 333 Argon plasmas, 333 Asymptotic expansion, 369 Average value, 145

Bending stiffness, 21 Buckling, 57

Carbon fibre composites (CFRP), 333, 361 Characteristic dimension, 13 Characteristic strength ratio, 1 CMCs, 257, 271 Compliance saturation, 43 Compression strength, 57 Conducting fibres, 29 Crack initiation (matrix), 257, 271 Cracking mechanisms, 257, 271 Creep resistance, 287 Critical scale, 145 Cross-ply laminates, 361 Curing stresses, 361

Damage (in GRP pipes), 137 Damage mechanics, 159, 169, 299, 309 Damage prediction, 169 Damage zone, 1 Debonding, 215 Delamination matrix cracking, 159 Design (with effective moduli), 145 Dilute concentrations of inclusions, 287 Dilute fibre suspensions, 29 DMA (dynamic mechanical analysis), 87 Durability, 137

Effective moduli, 145 Electrochemical treatments, 351 Embedded single fibre test, 215 Expansion coefficient, 21

Failure analysis, 227 Failure criteria, 209, 227 Failure mechanisms, 127, 137 Fatigue damage mechanics, 169, 299, 309 Fatigue damage model, 169 FEA (See finite element analysis) Fibre breakage, 215 Fibre coatings, 87

Fibre surface treatments, 185, 333, 351 Finite element analysis (FEA), 215, 299, Free edge, 1 Friction, 77

Glass beads, 119

High-modulus PE fibres, 127, 185, 197 High-temperature deformation, 287 Homogenization technique, 369 Hybrid reinforcement, 119

IITRI test, 57 Impact, 151 Impact behaviour, 107, 197 Impact fatigue, 107 Impact properties, 119 Inclusion shape effect, 287 Inhomogeneous bars, 21 Integral transforms, 151 Interface (fibre/matrix), 319 Interfacial adhesion, 333 Interfacial shear strength, 351 Interference contrast microscopy, 127 Internal stresses, 361 Interphase, 87, 215, 319 Isochronous compliance, 43

Kevlar fibre composites (See aramid)

Laminated metal composite, 71 Linear and non-linear failure analysis, Local properties, 319 Longitudinal stiffness, 21

Material characterization, 57 Matrix cracking, 95, 159, 257, 271 Mechanical conditioning, 43 Mechanical properties, 119, 287, 369 Micro-cracking, 95 Microscopy studies, 127 MMCs (See metal matrix composites)

Non-linear mechanisms, 369 Non-uniform elastic field, 145 Notch sensitivity, 13 Notch strength, 1, 13 Notches, 159, 169

Operational composite model, 43 Orientation, 29 Orthotropic width correction, 1 Oxygen plasma treatment (PE fibres), 185 Oxygen plasmas, 333

Particle strengthening, 287 Permittivity, 29 Phenolic matrix (modified), 77 Plasma surface treatments, 333 Plasma treatment (PE fibres), 185 Polyethylene fibre composites, 197 Polyethylene fibres, 127, 185, 197 Polynomial strength theories, 209 Post-fatigue stiffness, 159 Post-fatigue strength, 159 Pre-stressing, 361 Prediction (of post-fatigue strength), 299, 309 Pres-stress effects, 369 Propagator matrix, 151

Random fibre composites, 43 Residual thermal stress, 95

Sewer linings (GRP), 137) Short-fibre composites, 43 Simulation model (matrix cracking), 257, 271 Single fibre fragmentation test, 215 Sliding velocity, 77 Sliding wear, 77 Spheroidal inclusions, 287 Splitting, 159 Stacking sequence, 13 Strain energy release rate, 215 Strength theories, 209 Stress analysis, 57 Stress concentration, 71 Stress corrosion (of GRP), 137 Stress trajectories, 43 Stress transfer, 215 Structure, 29 Metal matrix composites (MMCs), 71, Surface treatments (See fibre surface treatments)

> Tensorial polynomials, 209 Thermal analysis, 87 Thermal displacements, 319 Thermal expansion, 95 Thermal expansion coefficient, 21 Thermal stresses, 71 Thermoelastic properties, 95 Thermoplastic matrix composites, 119

Transient creep, 287
Transient waves, 151
Transverse cracks, 361
Transverse shear (effect on failure), 227

Un-notched strength, 13

Viscoelasticity, 43

Wave propagation, 151, 369 Wear behaviour, 77 Whisker reinforcements, 369 Width correction factor, 1 Woven fabric, 13 Woven roving composites, 77



Author Index to Volume 44

Accorsi, M. L. 215 Adams, D. F. 351 Ashby, M. F. 169	Jang, B. P. 107 Jang, B. Z. 107, 333 Jones, F. R. 137	Pan, H. M. 71	Sturman, P. C. 29
Barsoum, M. W. 257, 271 Beakou, A. 369 Beaumont, P. W. R. 159, 169, 299, 309 Buttry, D. A. 351	Kameswara, C. V. S. 77 Kangutkar, P. 257	Pang, M. K. M. 127 Peters, P. W. M. 43 Pollard, G. 185, 197 Qiu, Y. P. 287	Tan, S. C. 57 Thomason, J. L. 87 Tissington, B. 185, 197 Touratier, M. 369 Tsui, S. W. 137
Chatellier, J. Y. 369	Ladizesky, N. H. 127 Lee, S. 71	Rapp, H. 21 Reddy, J. N. 227	Verma, A. P. 77 Vishnawanath, B. 77
DiAnselmo, A. 215 DiBenedetto, A. T. D. 215 Donoghue, R. D. 43	Marci, G. 43 Marissen, R. 361 McCullough, R. L. 29, 319 Milosavljevic, D. I. 151	Reddy, Y. S. N. 227 Rogerson, G. A. 151 Schulte, K. 361	Wang, A. S. D. 257, 271 Wang, Y. M. 287 Ward, I. M. 185, 197 Weng, G. J. 287 Wilczynski, A. P. 209
Green, W. A. 151 Gudmundson, P. 95	Naik, N. K. 1, 13	Scott, W. R. 319 Shembekar, P. 1, 13 Smith, P. A. 309 Sottos, N. R. 319 Spearing, S. M. 159, 169, 299,	Wolfenstine, J. 71 Ye, L. 145
Huang, X. G. 271	Ostlund, S. 95	309	Yilmazer, U. 119